

Claims 1 - 7 patented claims, unamended and pending.

8. Canceled

9. Canceled

10. Canceled

11. Canceled

12. Canceled

13. (Previously Amended and Pending) A liquid crystal display device including a liquid crystal display panel and a back light device, said back light device comprising:

a light source for emitting light;

a light guide having a top surface facing a back surface of said display panel and a side surface receiving said light from said light source;

a reflector provided on a back surface of said light guide; and

an optical film of light transparent material positioned between said back surface of said liquid crystal display panel and said top surface of said light guide, said optical film including a first surface having an optically rough structure for diffuse-transmitting said light from said light guide and a second surface having a wave structure including a plurality of isosceles triangle prisms arranged side-by-side, the prisms having smooth surfaces for refracting said light diffuse-transmitted from said first surface to gather light passing through said second surface in a direction toward said display panel, wherein a top angle of said isosceles triangle prisms of said optical film is in a range of about 90 degrees to about 120 degrees for flat, angle prism surfaces to gather light from the diffuse transmission and directionally distribute said light within a range defined by a given angle.

14. Canceled

15. (Previously Added and Pending) The liquid crystal display device according to claim 13, wherein luminance of said gathered light is increased within and decreased outside of a desired viewing angle of about 35 degrees in the vertical direction and about 55 degrees in the horizontal direction of said display panel.

16. (Previously Added and Pending) The liquid crystal display device according to claim 13, further including a second optical film positioned between said back surface of said liquid crystal display panel and said top surface of said light guide, wherein a direction along which peaks and valleys of said isosceles triangle prisms of one of said two optical films are oriented is at an angle with respect to a direction along which peaks and valleys of said isosceles triangles prisms of another of said two optical films are oriented.

17. (Previously Added and Pending) The liquid crystal display device according to claim 16, wherein said angle is perpendicular.

18. (Previously Added and Pending) The liquid crystal display device according to claim 16, wherein a polarizer is positioned between said liquid crystal display panel and said two optical films, and a direction along which peaks and valleys of said isosceles triangle prisms of said optical film closer to said polarizer is oriented in parallel to a polarizing axis of said polarizer.

19. (Previously Added and Pending) The liquid crystal display device according to claim 13, wherein the tops of the isosceles triangle prisms are no more than 160 μm apart.

20. Canceled

21. Canceled

22. Canceled

23. Canceled

24. (Previously Amended and Pending) A film for use in an optical system comprising a light source and a polarizer having a polarization axis, the film comprising a transparent material including a first surface and a second surface, said first surface having a structure including a plurality of isosceles triangular prisms arranged side-by-side for increasing luminance of light passing through said film in a direction corresponding to said polarization axis of said polarizer, and said second surface having an optically rough structure for diffuse transmitting light emitted by said light source, wherein a top angle of said isosceles triangle prisms is in a range of about 90 degrees to about 120 degrees, wherein the tops of the isosceles triangle prisms are no more than 160 μm apart.

25. Canceled

26. (Previously Added and Pending) The optical film according to claim 24, wherein said optical film is positioned within a liquid crystal display, said prisms having smooth surfaces for gathering diffuse transmitted light for increasing illumination within and decreasing illumination outside of a viewing angle of about 35 degrees in the vertical direction and about 55 degrees in the horizontal direction of the liquid crystal display.